

KNOCKING AVOIDANCE CONTROL SYSTEM OF A FOUR-STROKE
ENGINE FOR AN OUTBOARD MOTOR

Goichi Katayama

Appl. No.: Unknown Atty Docket: FS.20120US0A

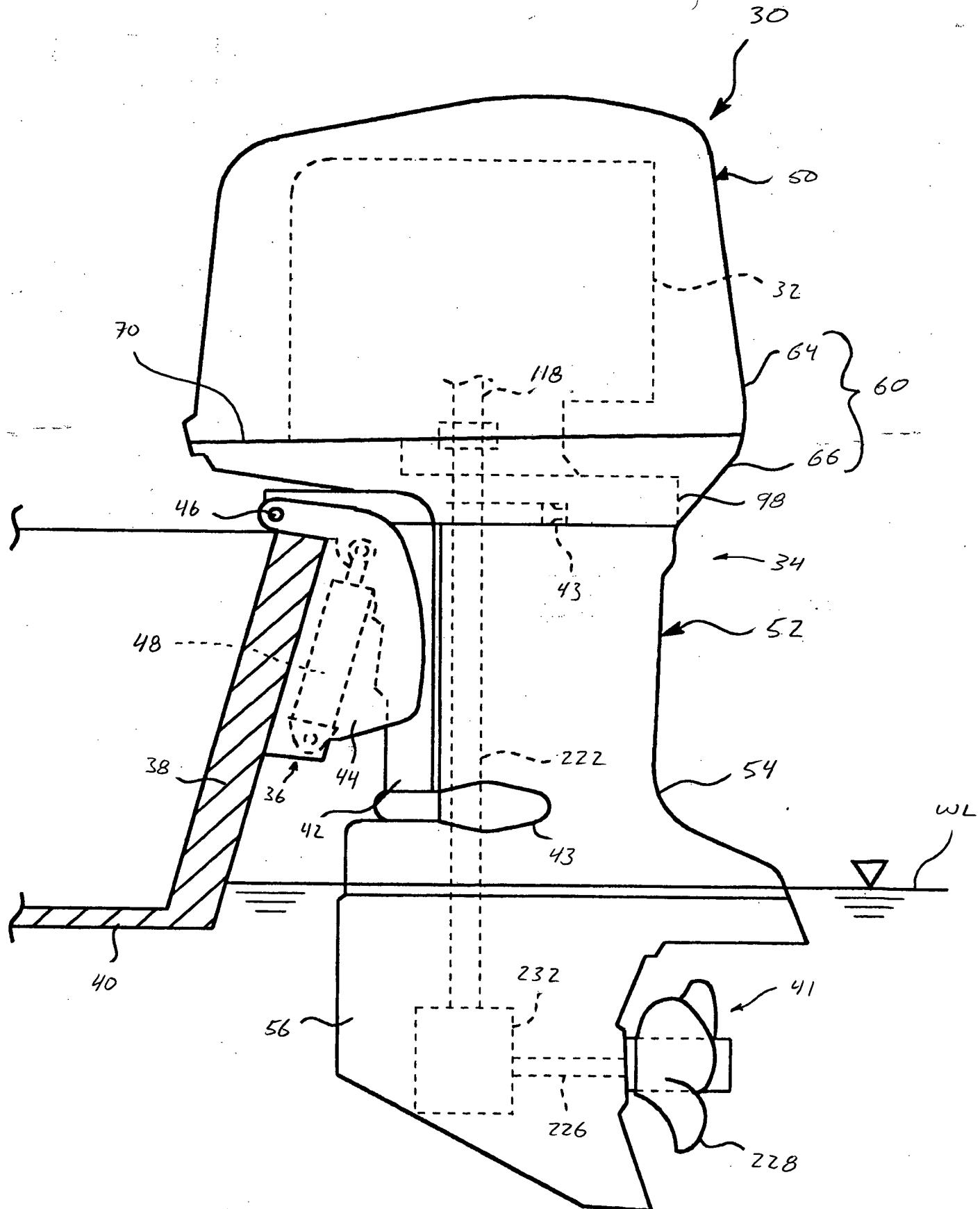


FIGURE 1

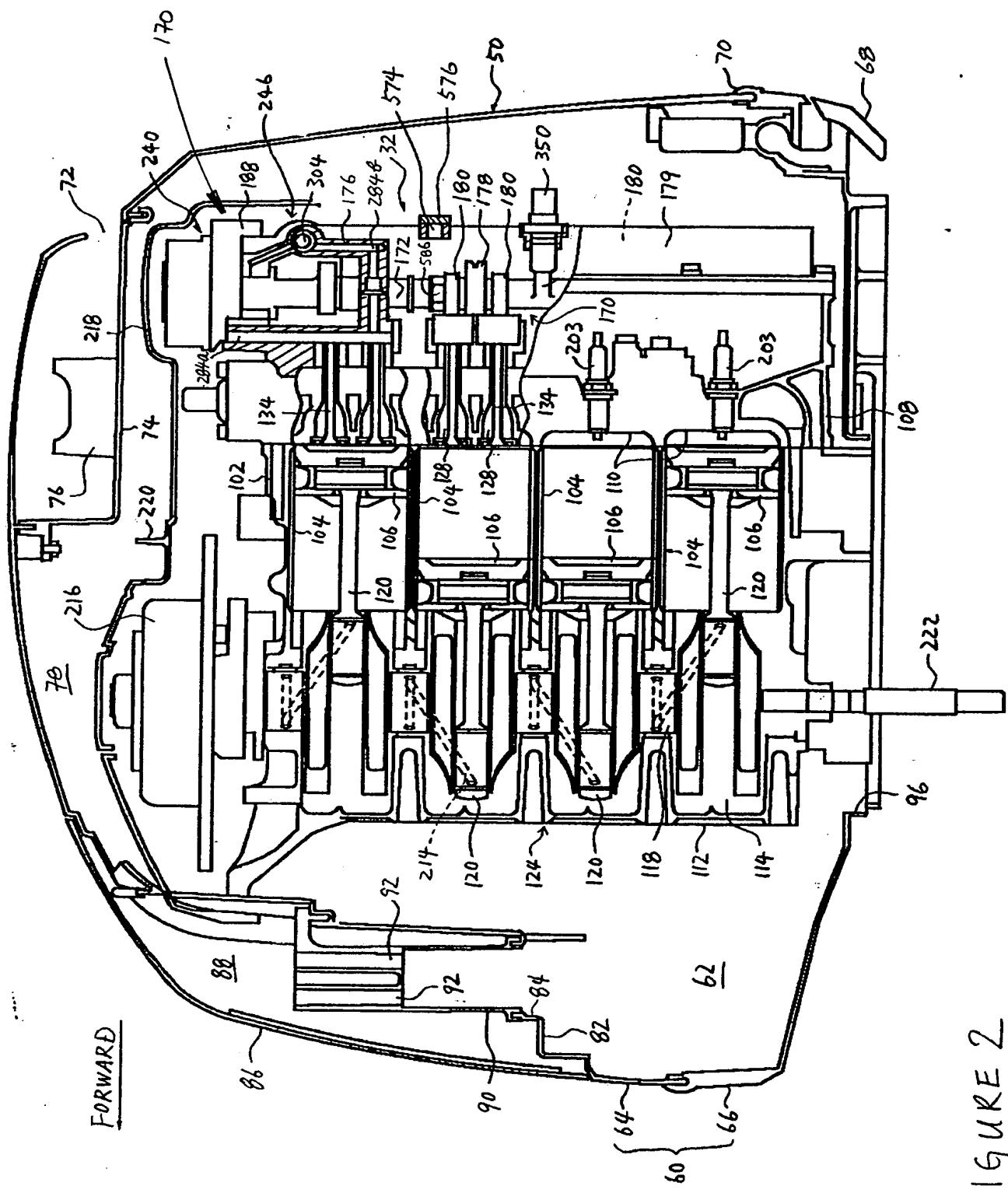


FIGURE 2

KNOCKING AVOIDANCE CONTROL SYSTEM OF A FOUR-STROKE ENGINE FOR AN OUTBOARD MOTOR

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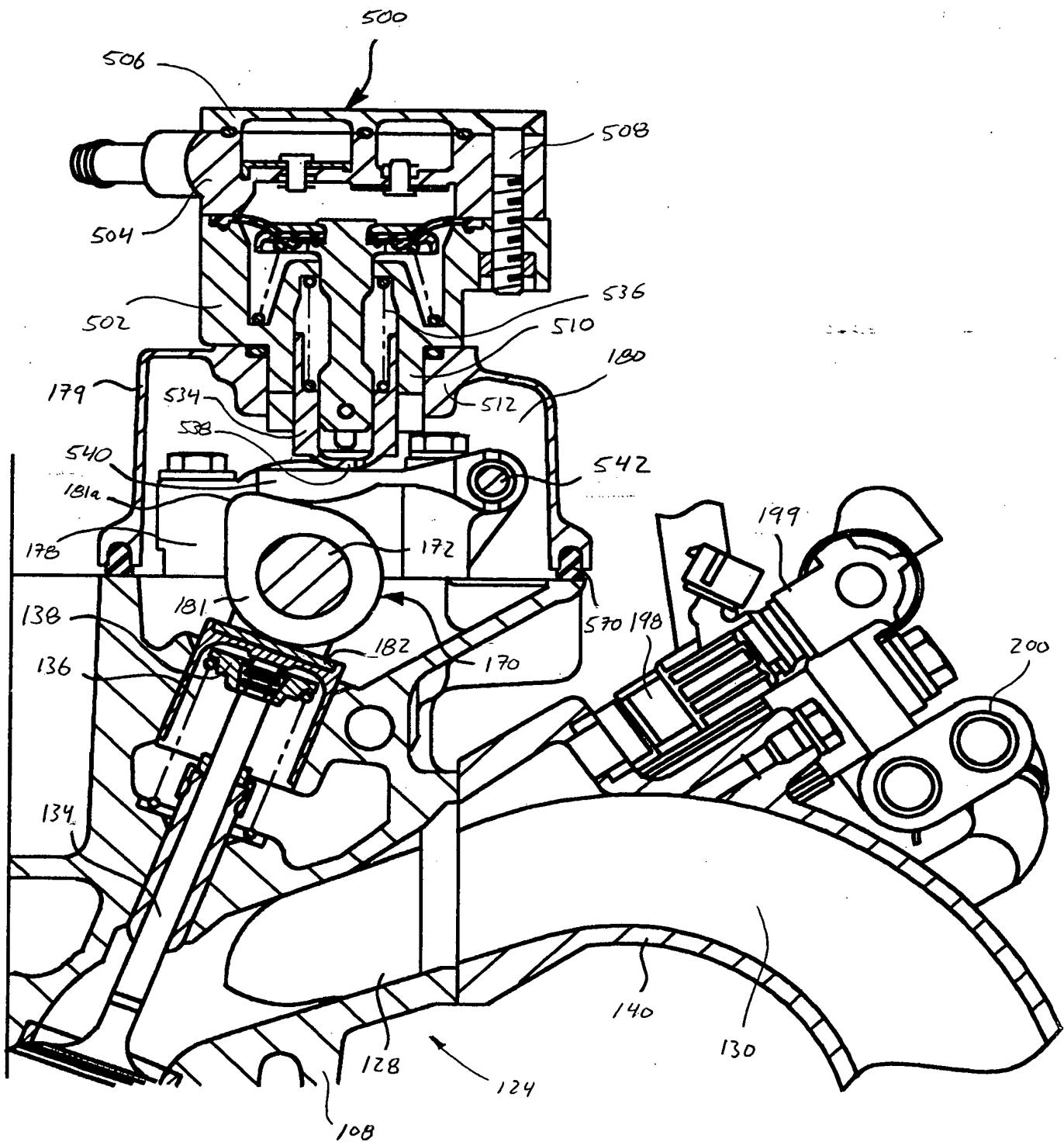


FIGURE 3

KNOCKING AVOIDANCE CONTROL SYSTEM OF A FOUR-STROKE
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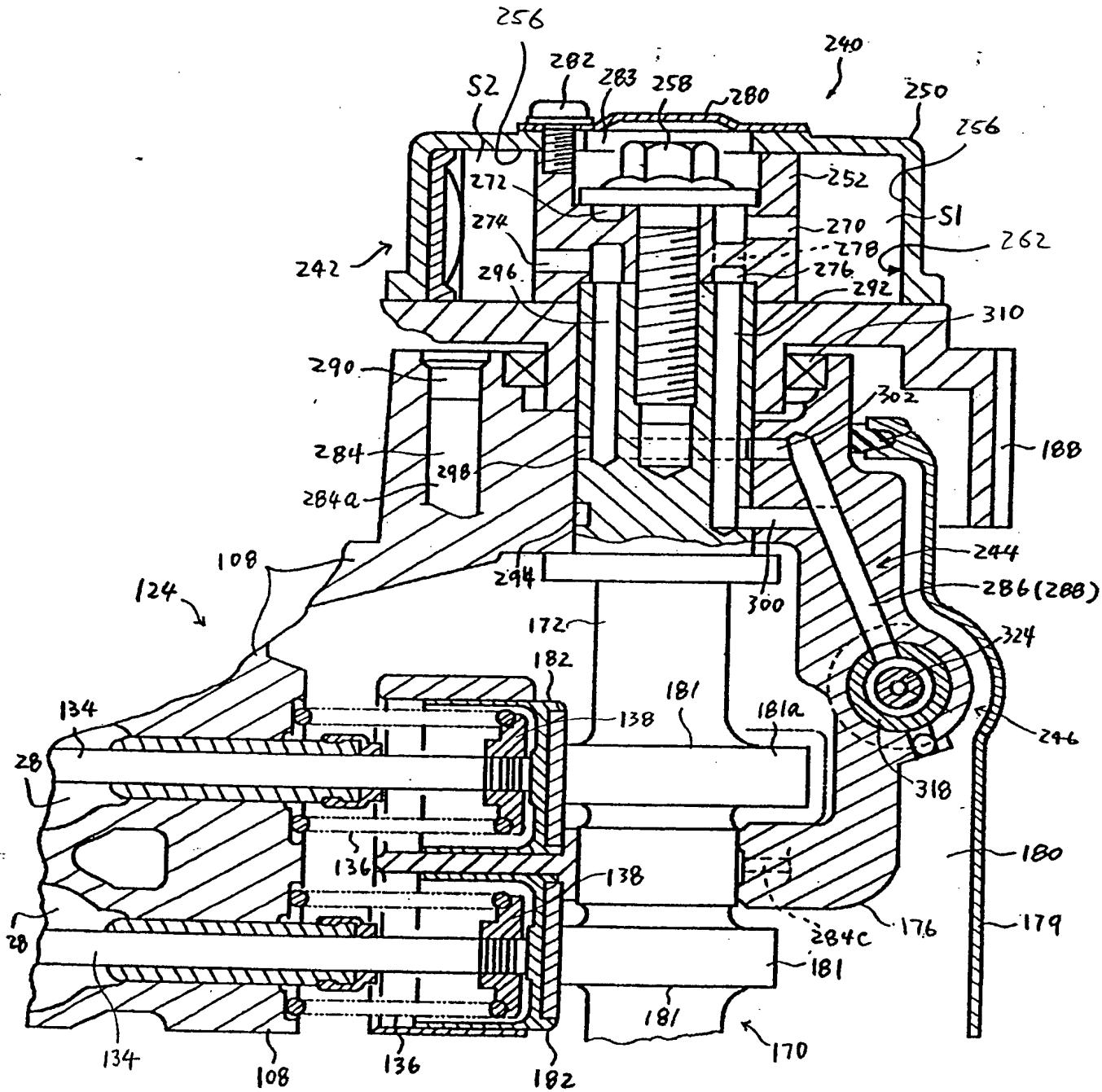


FIGURE 4

KNOCKING AVOIDANCE CONTROL SYSTEM OF A FOUR-STROKE
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Goihi Katayama

Atty Docket: FS.20120US04

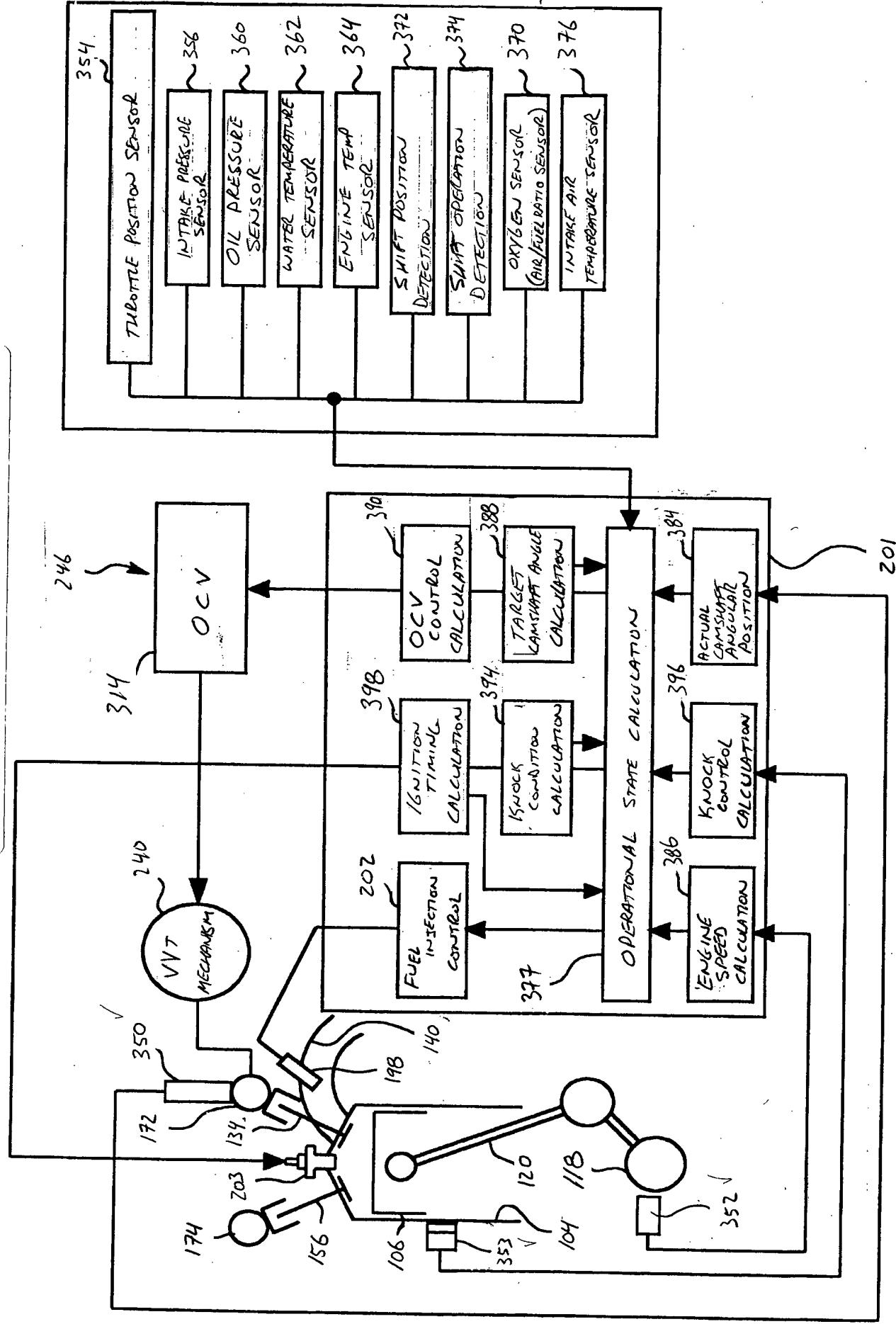
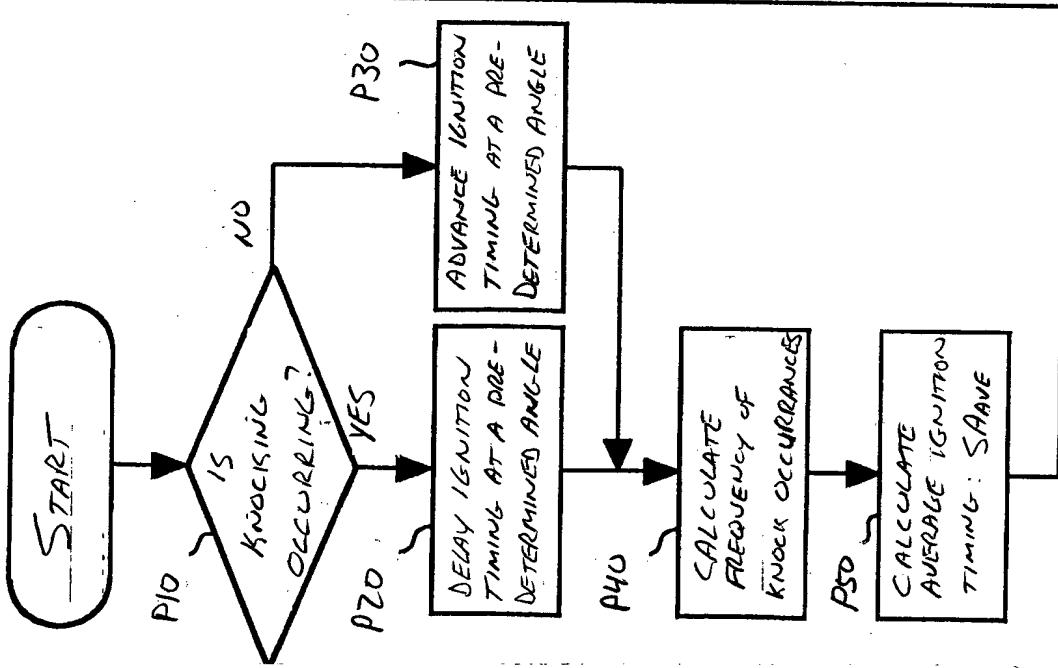
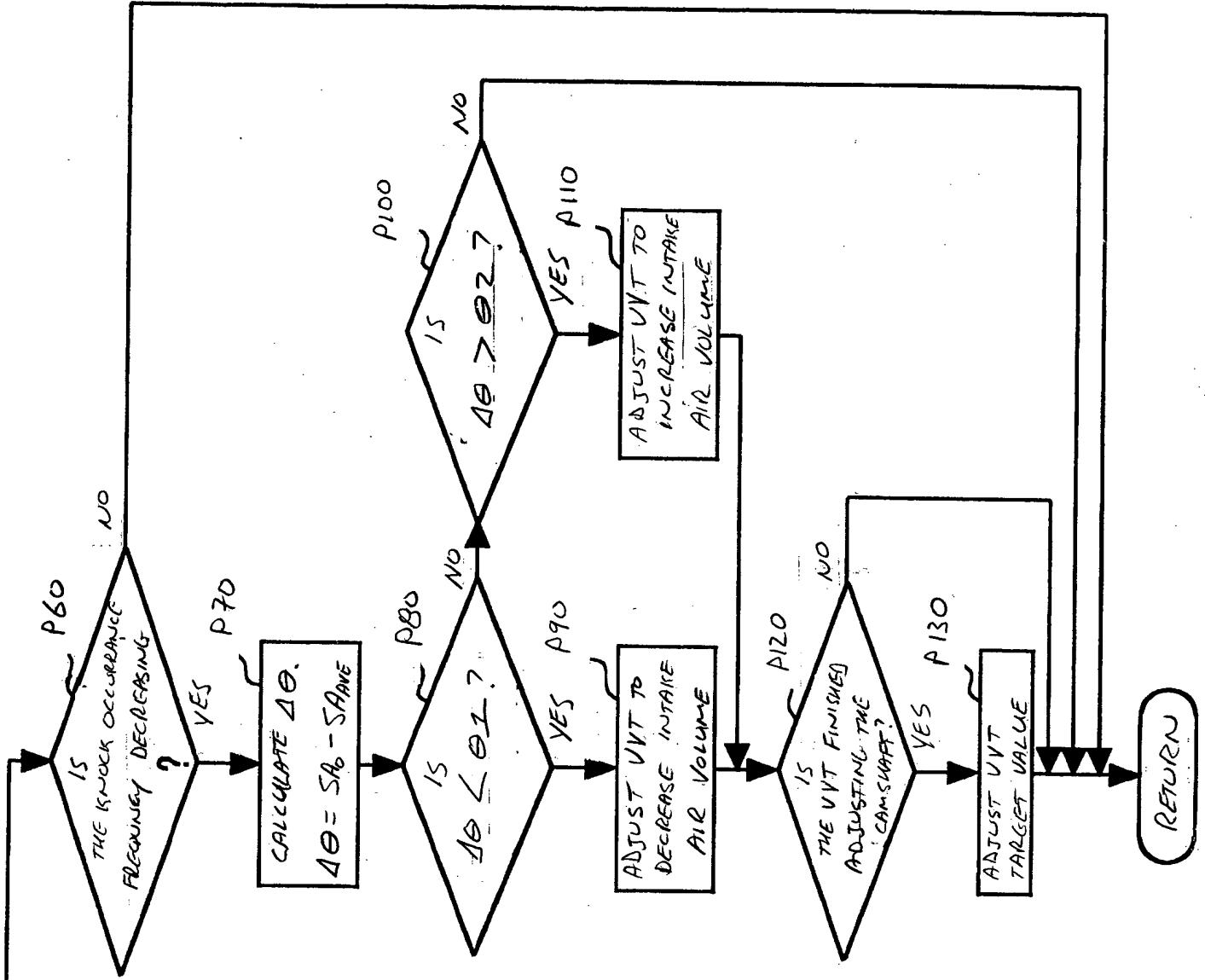


FIGURE 5



KNOCKING AVOIDANCE CONTROL SYSTEM OF A FOUR-STROKE ENGINE FOR AN OUTBOARD MOTOR

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FIGURE 6

KNOCKING AVOIDANCE CONTROL SYSTEM OF A FOUR-STROKE
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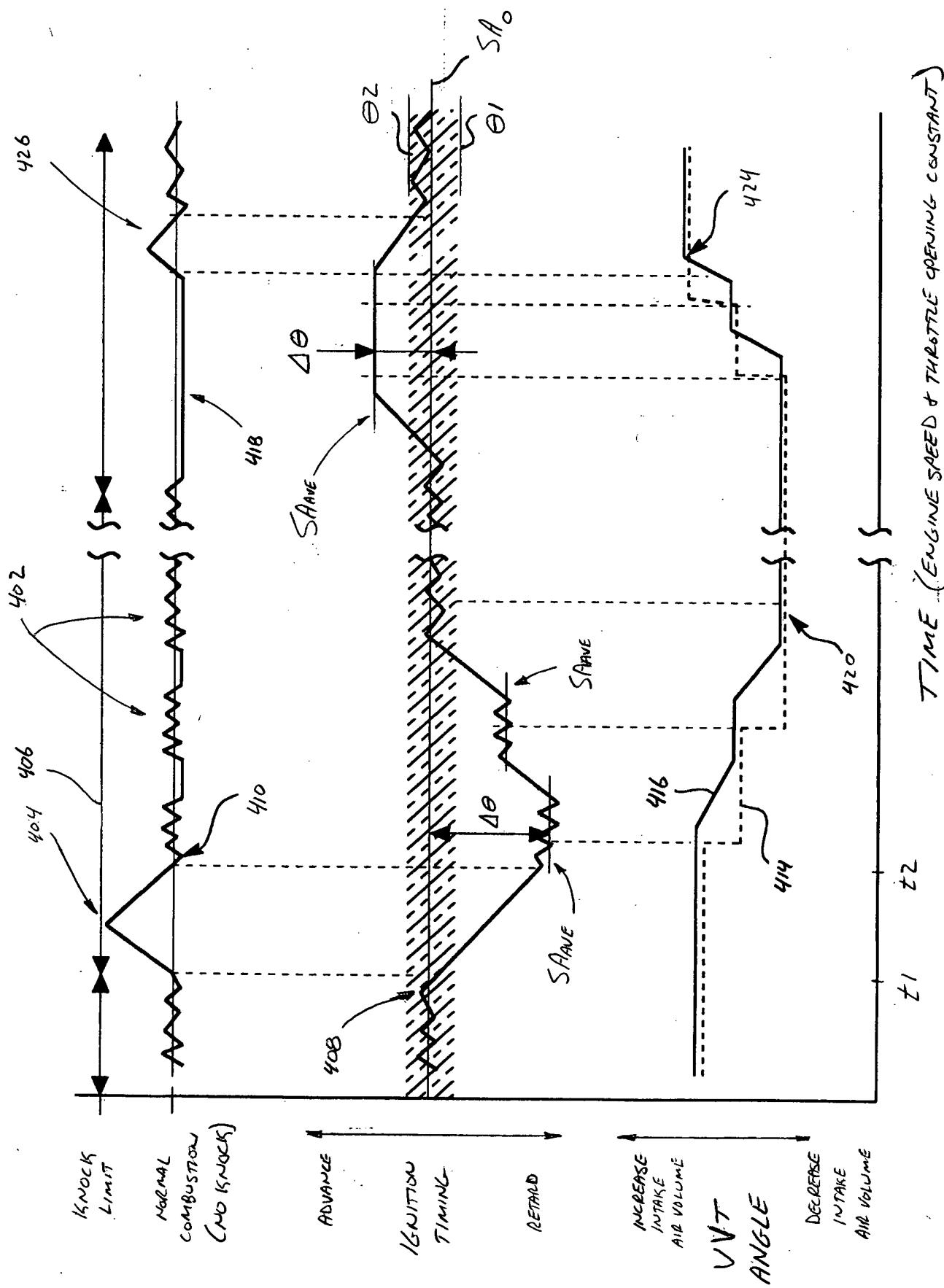


FIGURE 7

KNOCKING AVOIDANCE CONTROL SYSTEM OF A FOUR-STROKE
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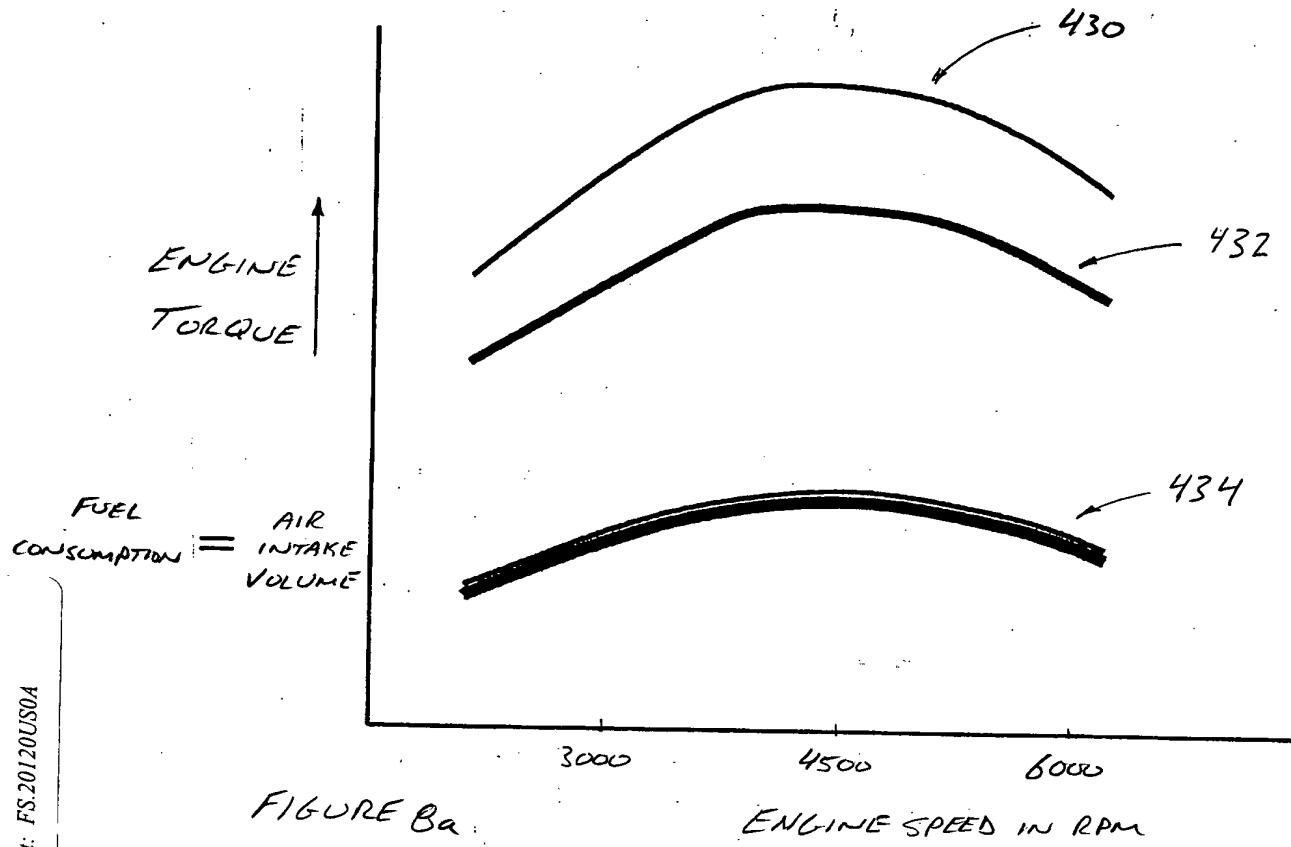


FIGURE 8a

ENGINE SPEED IN RPM

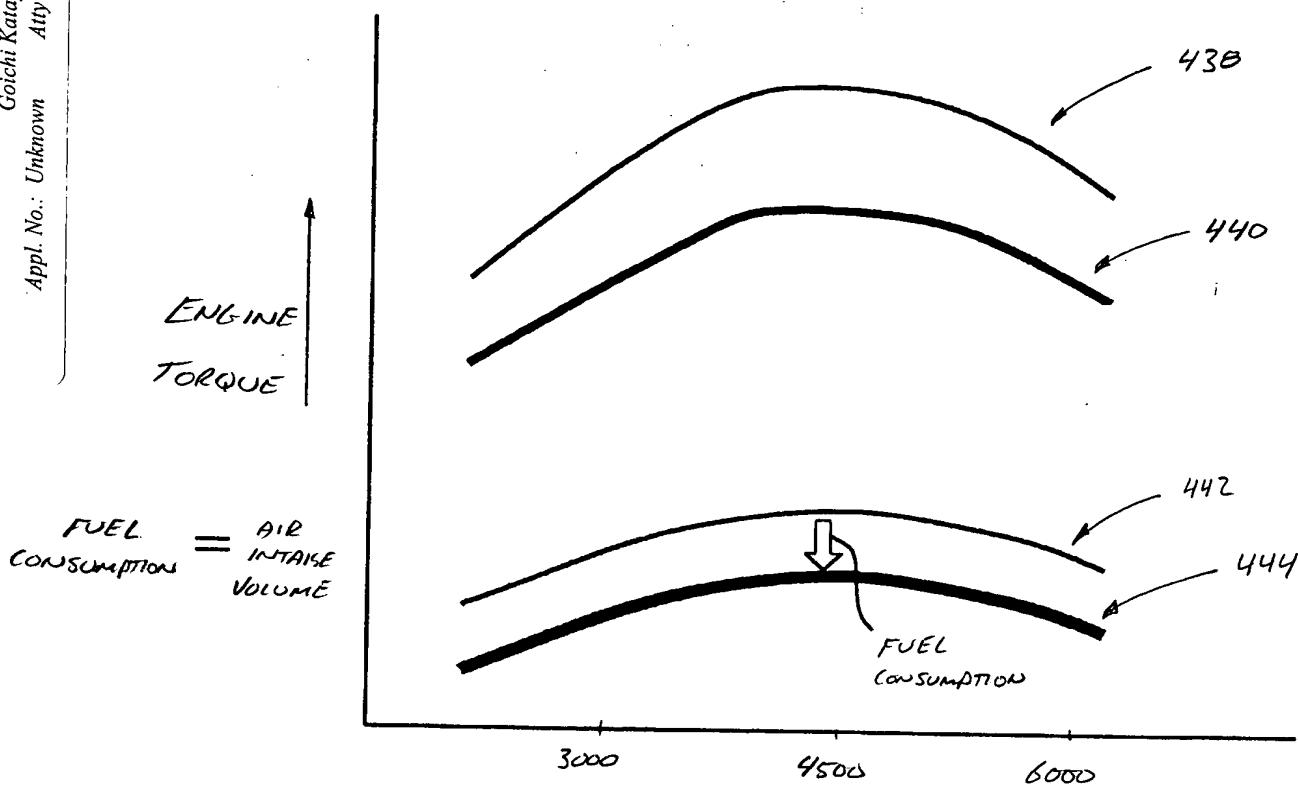


FIGURE 8b

ENGINE SPEED IN RPM

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— = OPTIMAL OCTANE FUEL
— = LOW OCTANE FUEL

VCT ADVANCE
IN
DEGREES

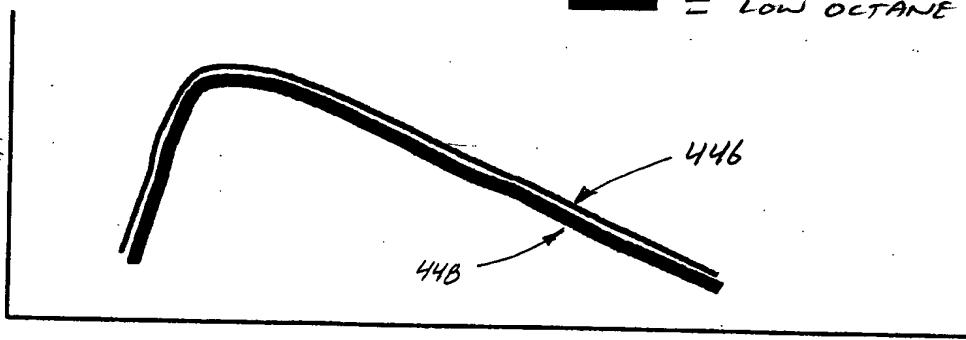


FIGURE 9a

ENGINE SPEED

IGNITION
ADVANCE
IN
DEGREES

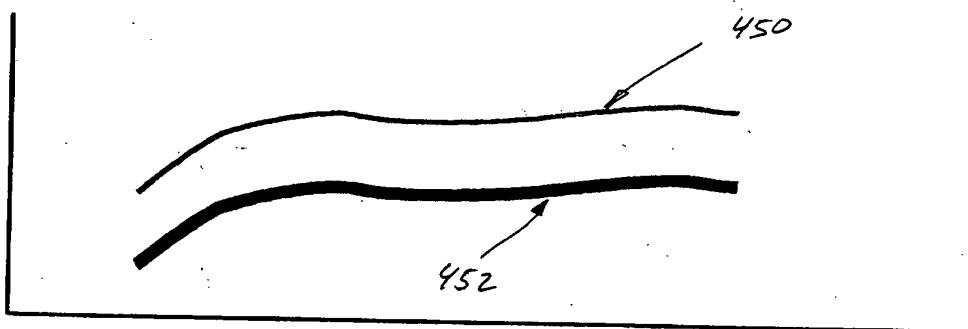


FIGURE 9b

ENGINE SPEED

VCT ADVANCE
IN
DEGREES

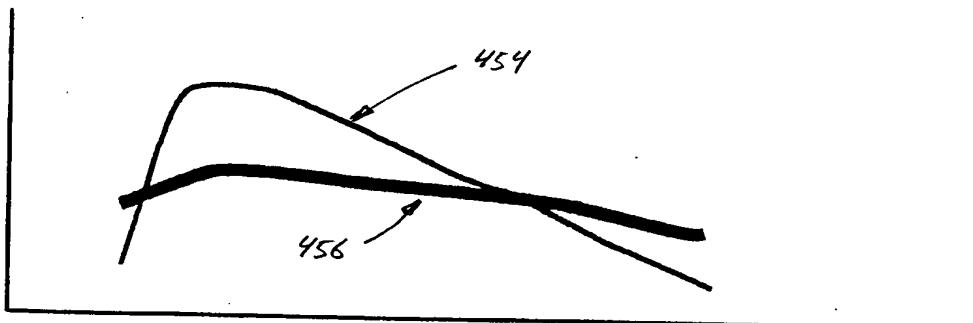


FIGURE 9c

ENGINE SPEED

IGNITION
ADVANCE
IN
DEGREES

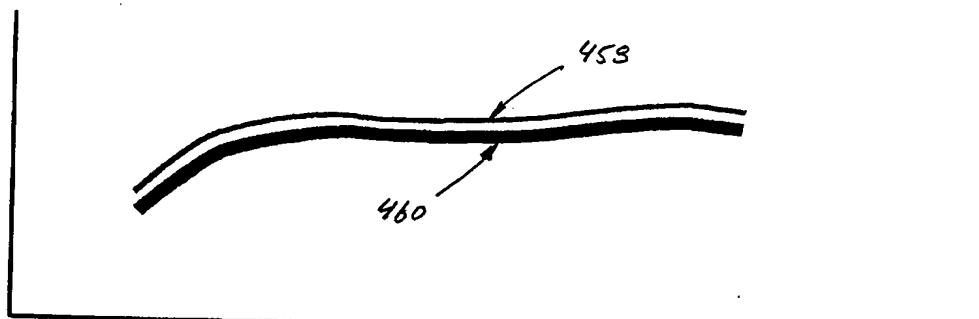


FIGURE 9d

ENGINE SPEED